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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,956	10/15/2001	Frank Kappe	KAPPE=1	4398
1444	7590	04/21/2004	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			KOSLOW, CAROL M	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/869,956

Applicant(s)

KAPPE ET AL.

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-59 and 64-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-56, 58, 66 and 67 is/are allowed.
- 6) ☒ Claim(s) 57, 64, 65 and 68 is/are rejected.
- 7) ☒ Claim(s) 59 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 16 March 2004 has been entered.

The rejection over Marking et al is withdrawn since it does not teach the zinc sulfide particles have a cubic crystal structure.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 57, 64 and 68 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hase et al.

Examples 9-14 teach cubic zinc sulfide electroluminophores having an average particle size of 8 or 9 microns and comprising copper and/or gold activators, and aluminum and at least one of gallium and indium as co-activators. The reference teaches the claimed electroluminophores.

Claim 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hase et al.

Column 15, lines 13-16 teach the taught phosphor can be subjected to any known surface treatment. Page 13 teaches it is known in the art to apply protective layers, such as those claimed, to zinc sulfide particles. Thus one of ordinary skill in the art would have it obvious to apply the claimed known protective layers to the taught zinc sulfide particles. The reference teaches the claimed particles.

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While the reference does not teach using the taught zinc sulfide particles in electroluminescent devices, this does not mean they are not electroluminophores. Morimoto teaches that gallium, aluminum and indium are all known co-activator for ZnS:Cu or ZnS:Au electroluminophores. Thus one of ordinary skill in art would expect the ZnS:M, M',Al, where M is Cu or Au and M' is Ga or In, phosphor of Hase et al to also be an electroluminophor since one would not the presence of more than one co-activator to prevent the compound from being activated by electricity. There has been no showing that the ZnS phosphors of the references are not electroluminescent, i.e. electroluminophores.

As stated in the Advisory action of 15 March 2003, there has been no showing that the taught phosphors do not have the argued structural elements. None of the U.S. patents or foreign references, cited in this application, which teach ZnS electroluminophors make mention of these structural elements. Thus the fact they are not mentioned does not mean the taught ZnS phosphors of the art used to make the rejections does not mean they do not inherently have the argued structural elements. Even if the taught particles do not have the argued elements, it does not necessarily mean they are not electroluminophores. This is because the reference applicants' are basing their arguments states these structural elements form during the hexagonal-to-cubic transformation. Applicants' process does not include this transformation, and thus would not be expected to have the argued structural elements based on the supplied reference, but yet applicants' particles are electroluminophores. Accordingly, applicants' argument that the taught phosphors are not electroluminescent is not convincing.

Applicants have not presented any evidence that the taught phosphors are not electroluminescent, as well as being cathodoluminescent. The rejections are maintained.

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Claim 59 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 32-56, 58, 66 and 67 are allowable over the cited art of record.

These claims are allowable for the reasons given in the previous actions.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (571) 272-1362.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk  
April 20, 2004



C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700